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PENTAGRID CONVERTER
9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	6.3	ac or dc volts
Current	0.3	amp

Direct Interelectrode Capacitances:°

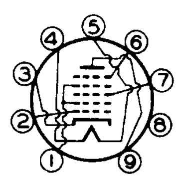
Grid No.3 to All Other Electrodes (RF Input)	9.5	μμf
Plate to All Other Electrodes (Mixer Output)	8.3	μμf
Grid No.1 to All Other Electrodes (Osc. Input)	6.7	μμf
Grid No.3 to Plate	0.19 max.	μμf
Grid No.3 to Grid No.1	0.1 max.	μμf
Grid No.1 to Plate	0.05 max.	μμf
Grid No.1 to All Other Electrodes Except Cathode	3.4	μμf
Grid No.1 to Cathode	3.3	μμf
Cathode to All Other Electrodes Except Grid No.1	4.0	μμf

° With no external shield.

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (excluding tip)	2" ± 3/32"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Base	Small-Button Noval 9-Pin
Basing Designation for BOTTOM VIEW	8CT

Pin 1 - Grids No.2 & No.4
Pin 2 - Grid No.1
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater



Pin 6 - Grid No.5, Internal Shield
Pin 7 - Grid No.3
Pin 8 - Internal Shield
Pin 9 - Plate

CONVERTER SERVICE

Maximum Ratings, ***Design-Center Values:***

PLATE VOLTAGE	300 max.	volts
GRID-No.5 & INTERNAL-SHIELD VOLTAGE ▲	0 max.	volts
GRIDS-No.2 & No.4 VOLTAGE	100 max.	volts
GRIDS-No.2 & No.4 SUPPLY VOLTAGE	300 max.	volts
PLATE DISSIPATION	2.0 max.	watts
GRIDS-No.2 & No.4 DISSIPATION	1.5 max.	watts
TOTAL CATHODE CURRENT	22 max.	ma

▲ See next page.

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GRID-No.3 VOLTAGE:		
Negative bias value.	100 max.	volts
Positive bias value.	0 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	90 max.	volts
Heater positive with respect to cathode.	90 max.	volts

Characteristics - *Separate Excitation*:*

Plate Voltage.	100	250	volts
Grid-No.5 & Internal Shield. .	Connected directly to ground		
Grids-No.2 & No.4 (Screen) Voltage . . .	100	100	volts
Grid-No.3 (Control Grid) Voltage	-1	-1	volt
Grid-No.1 (Oscillator Grid) Resistor . .	20000	20000	ohms
Plate Resistance (Approx.)	0.5	1	megohm
Conversion Transconductance	900	950	μmhos
Conversion Transconductance (Approx.)# .	3.5	3.5	μmhos
Plate Current.	3.6	3.8	ma
Grids-No.2 & No.4 Current.	10.2	10	ma
Grid-No.1 Current.	0.35	0.35	ma
Total Cathode Current.	14.2	14.2	ma

NOTE: The transconductance between grid No.1 and grids No.2 & No.4 connected to plate (not oscillating) is approximately 8000 micromhos under the following conditions: signal applied to grid No.1 at zero bias; grids-No.2 and No.4 and plate at 100 volts; grid No.3 grounded. Under the same conditions, the plate current is 32 milliamperes and the amplification factor is 16.5.

♠ Internal shield (Pins No.6 and No.8) connected directly to ground.

* The characteristics shown with separate excitation correspond very closely with those obtained in a self-excited oscillator circuit operating with zero bias.

With grid-No.3 bias of -20 volts.

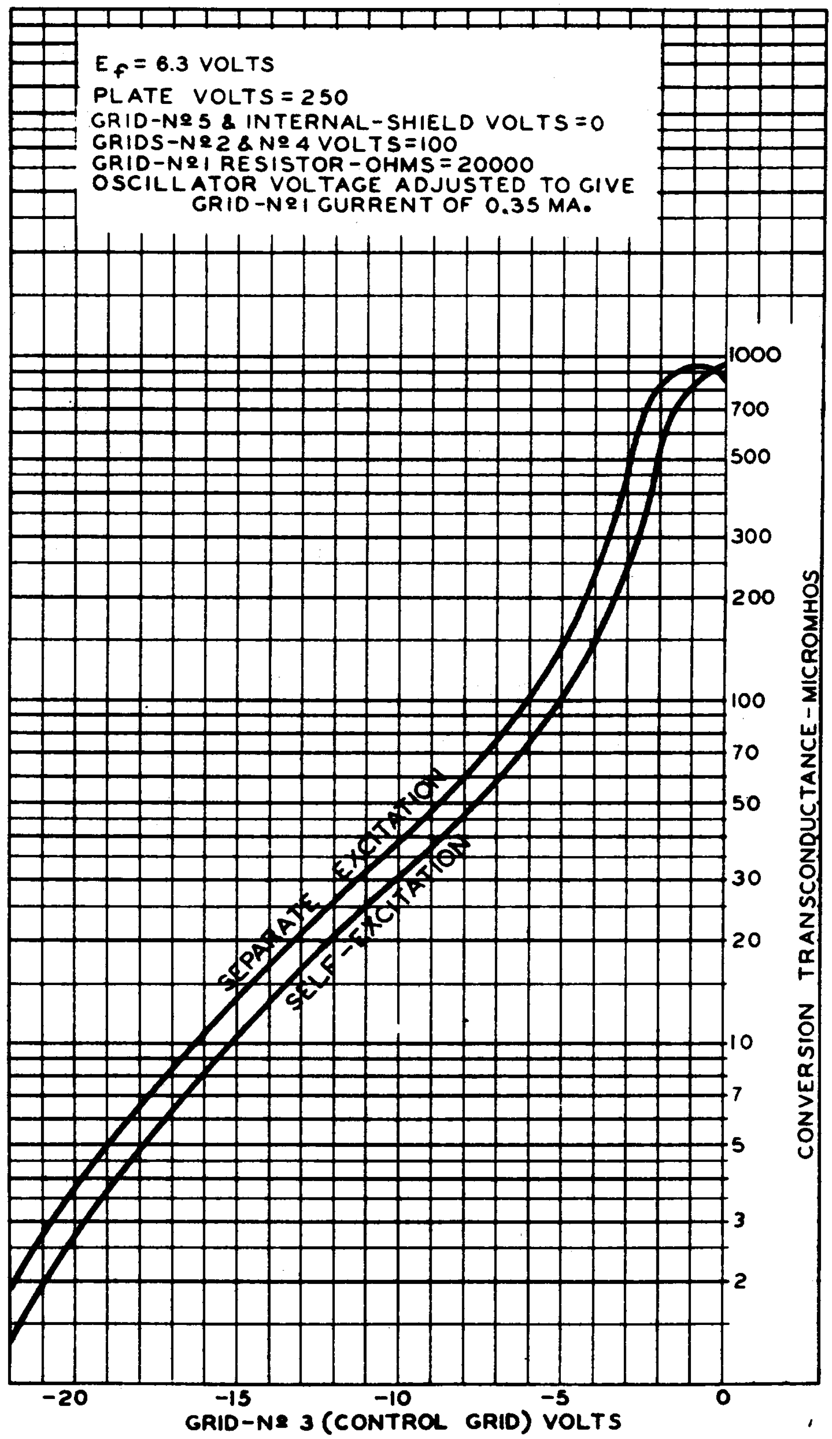
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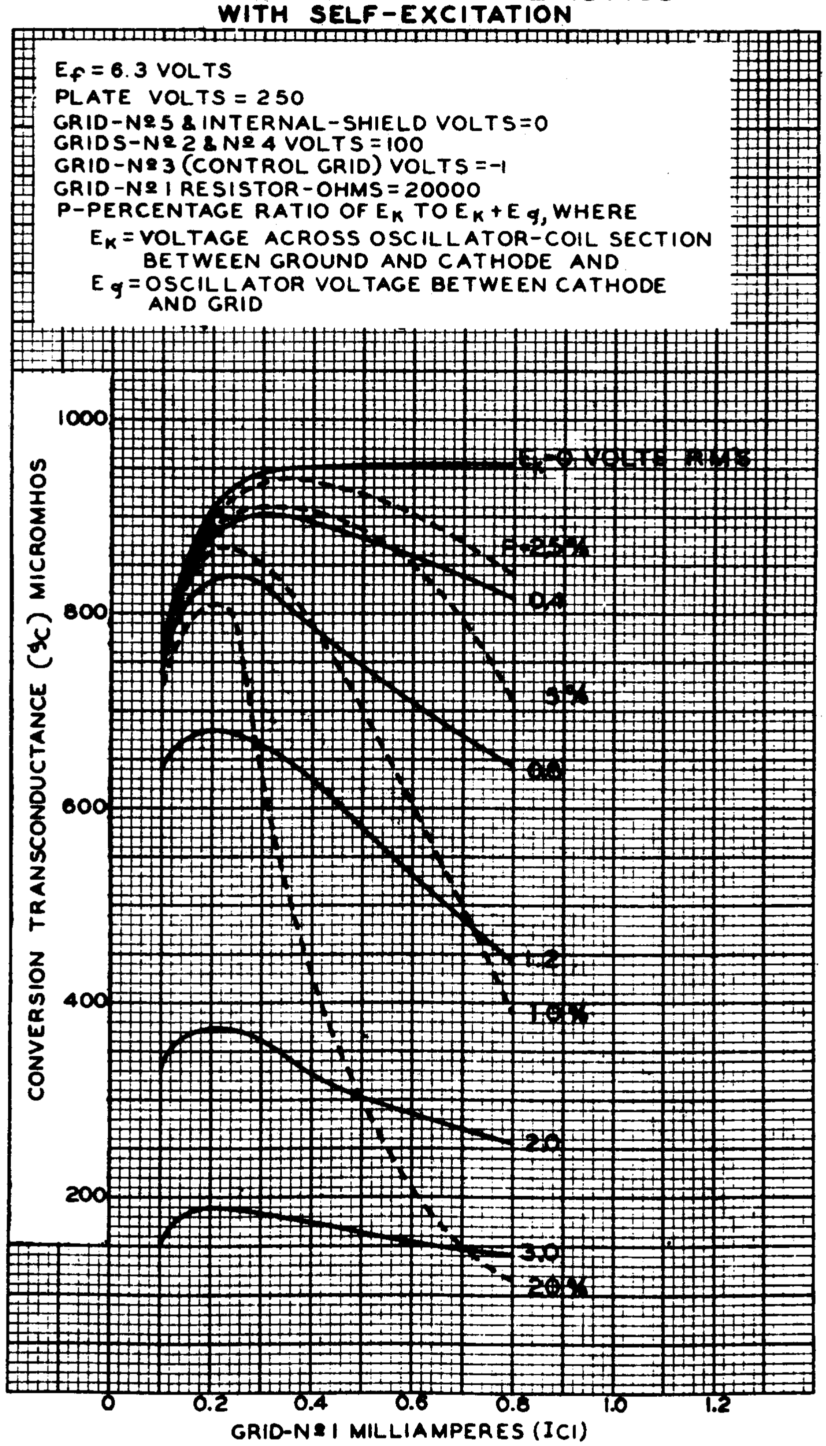
OPERATION CHARACTERISTICS



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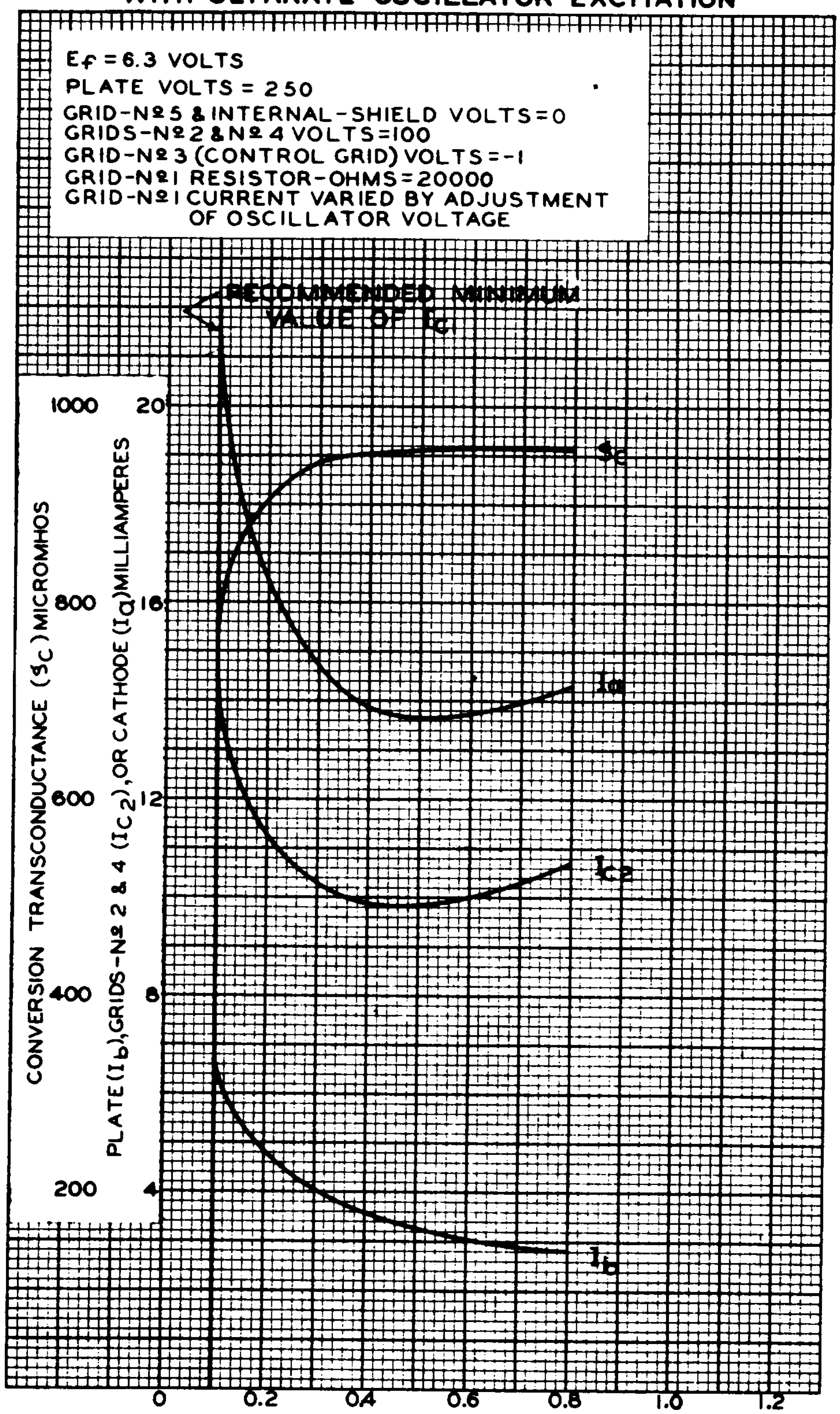
OPERATION CHARACTERISTICS
WITH SELF-EXCITATION



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OPERATION CHARACTERISTICS
WITH SEPARATE OSCILLATOR EXCITATION



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